

REMARKS

These amendments and remarks are being filed in response to the Office Action dated June 14, 2006. For the following reasons this application should be allowed and the case passed to issue.

No new matter is introduced by this amendment. The amendments to claims 1 and 6-9 and new claim 10 are supported by the specification at page 18, lines 8-25 and Figs. 4A, 4B, and 4C. The amendment to claim 5 is supported by claim 1, as originally filed. New claims 11-13 are supported by the specification at page 17, line 2 to page 18, line 25 and Figs. 3B, 4A, 4B, and 4C.

Claims 1 and 3-13 are pending in this application. Claims 1-9 are rejected. Claims 1 and 5-9 have been amended. Claim 2 has been canceled in this response. New claims 10-13 have been added.

Claim Rejections Under 35 U.S.C. § 102

Claims 1, 2, 4, 5, and 9 were rejected under 35 U.S.C. 35 § 102(b) as anticipated by Hayama et al. (U.S. Pat. No. 6,225,778). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the invention as claimed and the cited prior art.

The present invention is directed to a laminate packaging flat cell, battery module comprising laminate packaging flat cells, assembled battery comprising laminate packaging flat cells, and a vehicle comprising an assembled battery comprising laminate packaging flat cells, wherein the laminate packaging flat cells comprise an electrode terminal lead that protrudes from the thermally welded portion in a protruding direction, a plurality of through-holes are provided in the electrode terminal lead in a position thereof contacting the thermally welded portion, the

through-holes form first and second rows along a widthwise direction of the electrode terminal lead that is substantially perpendicular to the protruding direction, and the through-holes in the first row are arranged to offset to the through-holes in the second row in the widthwise direction when viewed along the protruding direction.

Another aspect of the present invention, per claim 5, is a laminate packaging flat cell wherein the electrode terminal lead protrudes from the thermally welded portion, and a through-hole is provided in the electrode terminal lead in a position thereof contacting the thermally welded portion, wherein an end of the laminate film joined to the electrode terminal lead is folded on itself.

Another aspect of the present invention, per claim 9, is a method for manufacturing a laminate packaging flat cell comprising forming a thermally welded portion on an outer periphery of the laminate film; and an electrode terminal lead coupled to the electrode plate protruding from the thermally welded portion in a protruding portion, and having a plurality of through-holes provided in the electrode terminal lead in a contact portion with the thermally welded portion. The through-holes form first and second rows along a widthwise direction of the electrode terminal lead that is substantially perpendicular to the protruding direction. The through-holes in the first row are arranged to offset to the through-holes in the second row in the widthwise direction when viewed along the protruding direction.

The Examiner asserted that Hayama et al. disclose a battery pack which comprises a flat battery cell, and tabs extending from the inside to the outside through sealings in an armor material.

Hayama et al., however, do not anticipate the present laminate packaging flat cell and method because Hayama et al. do not disclose the laminate packaging flat cells comprising an

electrode terminal lead that protrudes from the thermally welded portion in a protruding direction, a plurality of through-holes provided in the electrode terminal lead in a position thereof contacting the thermally welded portion, the through-holes forming first and second rows along a widthwise direction of the electrode terminal lead that is substantially perpendicular to the protruding direction, and the through-holes in the first row arranged to offset to the through-holes in the second row in the widthwise direction when viewed along the protruding direction, as required by claim 1.

Hayama et al., further do not disclose a laminate packaging flat cell wherein the electrode terminal lead protrudes from the thermally welded portion, and a through-hole is provided in the electrode terminal lead in a position thereof contacting the thermally welded portion, wherein an end of the laminate film joined to the electrode terminal lead is folded on itself, as required by claim 5.

In addition, Hayama et al. do not disclose a method for manufacturing a laminate packaging flat cell comprising forming a thermally welded portion on an outer periphery of the laminate film; and an electrode terminal lead coupled to the electrode plate protruding from the thermally welded portion in a protruding portion, and having a plurality of through-holes provided in the electrode terminal lead in a contact portion with the thermally welded portion, wherein the through-holes form first and second rows along a widthwise direction of the electrode terminal lead that is substantially perpendicular to the protruding direction and the through-holes in the first row are arranged to offset to the through-holes in the second row in the widthwise direction when viewed along the protruding direction, as required by claim 9.

Hayama et al. do not disclose the claimed through-holes. Hayama et al. teach insertion holes 203a on a circuit board, not through-holes that go through the electrode terminal lead.

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the disclosure in a single reference of each element of a claimed invention. *Helifix Ltd. v. Blok-Lok Ltd.*, 208 F.3d 1339, 54 USPQ2d 1299 (Fed. Cir. 2000); *Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994); *Hoover Group, Inc. v. Custom Metalcraft, Inc.*, 66 F.3d 399, 36 USPQ2d 1101 (Fed. Cir. 1995); *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051 (Fed. Cir. 1987). Because Hayama et al. do not disclose the laminate packaging flat cells comprising an electrode terminal lead that protrudes from the thermally welded portion in a protruding direction, a plurality of through-holes provided in the electrode terminal lead in a position thereof contacting the thermally welded portion, the through-holes forming first and second rows along a widthwise direction of the electrode terminal lead that is substantially perpendicular to the protruding direction, and the through-holes in the first row arranged to offset to the through-holes in the second row in the widthwise direction when viewed along the protruding direction, as required by claim 1; a laminate packaging flat cell wherein the electrode terminal lead protrudes from the thermally welded portion, and a through-hole is provided in the electrode terminal lead in a position thereof contacting the thermally welded portion, wherein an end of the laminate film joined to the electrode terminal lead is folded on itself, as required by claim 5; and a method for manufacturing a laminate packaging flat cell comprising forming a thermally welded portion on an outer periphery of the laminate film; and an electrode terminal lead coupled to the electrode plate protruding from the thermally welded portion in a protruding portion, and having a plurality of through-holes provided in the electrode terminal lead in a contact portion with the thermally welded portion, wherein the through-holes form first and

second rows along a widthwise direction of the electrode terminal lead that is substantially perpendicular to the protruding direction and the through-holes in the first row are arranged to offset to the through-holes in the second row in the widthwise direction when viewed along the protruding direction, as required by claim 9, Hayama et al. do not anticipate claims 1, 5, and 9.

Applicants further submit that Hayama et al. do not suggest the claimed laminate packaging flat cells and method for manufacturing a laminate packaging flat cell.

The dependent claims are allowable for at least the same reasons as independent claim 1 and further distinguish the claimed laminate packaging flat cell.

Claim Rejections Under 35 U.S.C. § 103

Claim 3 was rejected under 35 U.S.C. 35 § 103(a) as unpatentable over Hayama et al. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Hayama et al. do not suggest laminate packaging flat cells comprising an electrode terminal lead that protrudes from the thermally welded portion in a protruding direction, a plurality of through-holes provided in the electrode terminal lead in a position thereof contacting the thermally welded portion, the through-holes forming first and second rows along a widthwise direction of the electrode terminal lead that is substantially perpendicular to the protruding direction, and the through-holes in the first row arranged to offset to the through-holes in the second row in the widthwise direction when viewed along the protruding direction, as required by claim 1. Therefore, claim 3 is allowable for at least the same reasons as independent claim 1.

Claim 6 was rejected under 35 U.S.C. 35 § 103(a) as unpatentable over Hayama et al. in view of Dasgupta et al. (U.S. Pat. No. 6,080,508). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Hayama et al. and Dasgupta et al., whether taken alone, or in combination, do not suggest the claimed battery pack. Neither Hayama et al. nor Dasgupta et al. suggest laminate packaging flat cells comprising an electrode terminal lead that protrudes from the thermally welded portion in a protruding direction, a plurality of through-holes provided in the electrode terminal lead in a position thereof contacting the thermally welded portion, the through-holes forming first and second rows along a widthwise direction of the electrode terminal lead that is substantially perpendicular to the protruding direction, and the through-holes in the first row arranged to offset to the through-holes in the second row in the widthwise direction when viewed along the protruding direction, as required by claim 6.

Claims 7 and 8 were rejected under 35 U.S.C. 35 § 103(a) as unpatentable over Hayama et al. in view of Haba et al. (U.S. Pat. No. 6,465,986). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Hayama et al. and Haba et al., whether taken alone, or in combination, do not suggest the claimed assembled battery and vehicle. Neither Hayama et al. nor Haba et al. suggest laminate packaging flat cells comprising an electrode terminal lead that protrudes from the thermally welded portion in a protruding direction, a plurality of through-holes provided in the electrode terminal lead in a position thereof contacting the thermally welded portion, the through-holes forming first and second rows along a widthwise direction of the electrode terminal lead that is substantially perpendicular to the protruding direction, and the through-holes in the first row arranged to offset to the through-holes in the second row in the widthwise direction when viewed along the protruding direction, as required by claims 7 and 8.

Applicants submit that new claims 10-13 are allowable over the cited prior art. None of the cited references suggest a laminate packaging flat cell wherein the electrode terminal lead

protrudes from the thermally welded portion in a protruding direction, a plurality of through-holes provided in the electrode terminal lead in a position thereof contacting the thermally welded portion, and the through-holes arranged to prevent leakage of electrolyte linearly through a location of the thermally welded portion of the laminate film where the terminal electrode lead protrudes, as required by claim 10; or a laminate packaging flat cell wherein the electrode terminal lead protrudes from the thermally welded portion in a protruding direction and a through-hole provided in the electrode terminal lead in a position thereof contacting the thermally welded portion, wherein the through-hole is elongated along a widthwise direction of the electrode terminal lead that is substantially perpendicular to the protruding direction, as required by claim 11.

In view of the above amendments and remarks, Applicants submit that this case should be allowed and passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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